



**ABOVE •** NIDA acting deputy director Dr. David Shurtleff shows human “Brains Up Close” to Diego and Annalia Burke-Carreno during *Take Your Child to Work Day*. See more photos, p. 12.

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# nih record

*Digital Versions Not the Equal*

## Primacy of the Book Touted by U Va.’s Suarez

By Rich McManus

No lover of books, words, literature and language ever preferred a PDF of Virgil’s *The Aeneid* to the well-worn volume that carried him, with a sort of totemic power, from AP high school English, then on—according to the press release that announced Dr. Michael F. Suarez’s appointment to the English department faculty at the University of Virginia in 2009—to two bachelor’s degrees (with majors in biology, English and sociology), four master’s degrees in English and theology and a Ph.D. in English literature from Oxford University.

But that’s only part of Suarez’s CV; he is also a Jesuit priest and director of the Rare Book School at U Va. It was with a kind of priestly devotion to original, not digital, texts that he discussed “The Future for Books in a Digital Age,” at NLM’s Lister Hill Auditorium on Apr. 19.

In a lively talk that made one wish to audit the freshman English class he teaches—



Dr. Michael F. Suarez

SEE **SUAREZ**, PAGE 6



Dr. S. Kalani Brady

## Legacy of Fr. Damien Physician Brady Outlines Story of Hawaiian Leper Colony

By Audrey Hill

In 1866, the first convicts arrived at Kalaupapa, a remote peninsula in Hawaii. Convicted of leprosy, now known as Hansen’s disease, these were the forebears of patients that Dr. S. Kalani Brady treats today at the Kalaupapa Clinic.

On Apr. 13, Brady gave a talk about the history of this leprosarium, titled, “Kalaupapa and Father Damien: ‘Here I am, send me’” at the National Library of Medicine. Fr. Damien, canonized as a saint in 2009, arrived to help the exiles in 1873. Brady recounted Fr. Damien’s legacy and treatment of the remaining patients at this settlement.

SEE **BRADY**, PAGE 4

## NIH Inspires Future Scientists at Festival

By Britt Ehrhardt and Anastasia Bodnar

What do smashing strawberries, playing in sand and walking, talking mice and carrots have to do with science? Everything, it seems, as hundreds of NIH staff made science fun for the more than 250,000 people who crowded the Washington, D.C. Convention Center for the USA Science & Engineering Festival Finale Expo, Apr. 27-29.

More than 30 exhibits and stage shows from 27 NIH institutes, centers and OD offices featured interactive activities for all ages during the science extravaganza. The Finale Expo brought to a close a 2-month celebration of science that reached schools and students across the area.

Throughout March and April, NIH leaders visited local schools to talk about science. The students at Bladensburg High School were lucky enough to get a guitar performance from NIH director Dr. Francis Collins; Dr. Griffin Rodgers, NIDDK director, spoke at the Langley Educa-

SEE **FESTIVAL**, PAGE 8





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NIH...Turning Discovery Into Health

## briefs

### Free Screening of Addiction Film, June 1

NIDA will host a free screening of the major motion picture *Addiction Incorporated* Friday, June 1 from 2-5 p.m. in Lipsett Amphitheater, Bldg. 10.

This film tells the story of Dr. Victor DeNoble, a Phillip Morris research scientist who became one of the most influential whistleblowers in our history, testifying before Congress about his findings on the addictive nature of nicotine. Members of the tobacco industry attempted to suppress his findings, which finally came to light during congressional hearings in 1994 and ultimately resulted in passage of the Family Smoking Prevention and Tobacco Control Act of 2009. The film trailer can be viewed at [www.addictionincorporated.com/video/trailer/](http://www.addictionincorporated.com/video/trailer/).

The screening will be followed by a Q&A session with DeNoble (via videocast) and Charles Evans Jr., director and producer.

Sign language interpreters will be provided. Those who need reasonable accommodation to participate should contact [media@nida.nih.gov](mailto:media@nida.nih.gov), (301) 443-6245, and/or the Federal Relay (1-800-877-8339).

### Twitter Event Touts Sleep Health

Experts from the trans-NIH sleep research coordinating committee, the Centers for Disease Control and Prevention and Brigham and Women's Hospital in Boston recently held a free Twitter event "SleepChat," to coincide with the National Sleep Foundation's National Sleep Awareness Week.

During the hour-long event, which was supported by the NHLBI Office of Communication, experts answered questions from and engaged with the public via Twitter about the value of sleep health and continued research in this area.

The chat generated 761 "tweets" or messages about sleep health, which reached an estimated 1.6 million Twitter users. In addition, it was a global event with people tweeting from the United States, India, Canada, Venezuela and the United Kingdom. Some of the most popular sleep-related topics addressed during the chat included shift work, sleep research and studies and children and sleep.

### Stetten Symposium Set, June 6

The Office of History at NIH will hold "History in the NIH—The 4th Annual Stetten Symposium" on Wednesday, June 6 from 12:30 to 5 p.m. in Wilson Hall, Bldg. 1. The symposium, open to

all, is a progress report by the four current DeWitt Stetten fellows in the Office of History. Their presentations will explore biostatistics and biometry at NIH, the problem of Leber's hereditary optic neuropathy, Joseph Kinyoun (the founder of the forerunner of NIH/NIAID) and the origins of NIAAA and NIDA in the 1970s.

Each fellow will speak for 25 minutes, followed by 10-15 minutes of commentary by such NIH authorities as NHLBI acting deputy director Dr. Carl Roth, NIAAA acting director Dr. Kenneth Warren, NIAID senior advisor Dr. David Morens and NINDS neurologist Dr. Kenneth Fischbeck. A discussion period follows each commentary. For more information, contact Sejal Patel, (301) 451-9431 or [patelss2@mail.nih.gov](mailto:patelss2@mail.nih.gov).

### Third Protocol Navigation Lecture Set, June 4

The third lecture in the IRP Protocol Navigation Training Program Seminar Series will be held Monday, June 4 from 1 to 3 p.m. in Bldg. 50, Conf. Rm. 1227/1328. The program is a trans-NIH effort to develop resources and tools and to provide training for intramural staff involved in protocol development, writing, coordination and management. Dr. Melissa Colbert, assistant director for compliance issues in the NIH Office of Intramural Research, will present "Navigating the Protocol Archipelago: How to Avoid the Shoals and Shipwrecks to Develop a Sound and Seaworthy Protocol." For more information, contact Beverly Barham, (301) 594-2494, [bbarham@mail.nih.gov](mailto:bbarham@mail.nih.gov) or Marcia Vital, (301) 451-9437, [vitalm@mail.nih.gov](mailto:vitalm@mail.nih.gov).

### Workshop on *Leptospira* Vaccine Potency Testing

An upcoming workshop will focus on improved methods and approaches for *Leptospira* vaccine potency testing that may also help reduce, refine and replace animal use. The International Workshop on Alternative Methods for *Leptospira* Vaccine Potency Testing: State of the Science and the Way Forward will take place Sept. 19-21 at the USDA Center for Veterinary Biologics at the National Centers for Animal Health in Ames, Iowa.

Leptospirosis is a bacterial zoonotic disease caused by spirochetes of the genus *Leptospira*. Over 500,000 human cases of leptospirosis occur worldwide each year with a fatality rate of up to 25 percent in some regions. Designated as a neglected tropical disease, leptospirosis is a global research and public health priority.

The workshop will bring together international scientific experts from government, industry and academia to review recent advances in science and technology, in addition to available methods and approaches for *Leptospira* vaccine potency testing. Registration information and a workshop program will be available at <http://iccvam.niehs.nih.gov/meetings/LeptoVaccWksp-2012/LeptoVaccWksp.htm>. Abstracts for scientific posters should be submitted by Aug. 13.

# nih record





NLM's Allen Browne

## NLM's Browne Makes Exercise of Commute

Two days each week for the past few years, the National Library of Medicine's Allen Browne has taken the long way home—5 miles on foot, to his house on the Takoma Park side of Silver Spring.

Perhaps you have seen him walking east on Jones Bridge Rd., then along the Capital Crescent Trail, past Lyttonsville into downtown Silver Spring. Any way you slice it, it's a schlep.

"I do it for the exercise, and I enjoy the walk," says Browne, a linguistics expert who has been at the library since 1986 as a member of the Lister Hill Center's Cognitive Science Branch.

A 3-year Army hitch in South Korea, where he learned the language, prompted his interest in language studies. He earned a master's degree in sociolinguistics from Georgetown University after majoring as an undergrad there in linguistics. Now part of the lexical systems group at Lister Hill, he is busy "getting computers to work with natural language, in this case English."

On the days when he walks, usually Tuesday and Thursday, his wife drives him to NLM in the morning. "The car ends up making the trip back and forth whether I walk or not, so I'm not saving gas or the environment," he laughs.

The hike takes him about 2 hours, "or 2½ hours on a nice day when I look at flowers and birds and things. I always tell people that a half hour of [my commute] is standing at stop lights."

He has considered going even greener by taking the bus to work on walk-home days, "but that involves getting up too early in the morning."

Browne is grateful to have an office with a door, which permits him, in summer, to change into shorts and a T-shirt for the walk. The long, leisurely commute exposes him to many fellow walkers and

bikers. "I've met lots of interesting people," he said. "And I love to meet dogs."

He also hears from his friends, who pass him by on the road. "I used to get offered rides," he said, but that would defeat his purpose.

Because he bears a resemblance to the late Grateful Dead lead guitarist Jerry Garcia, Browne gets those comments as well.

"I always say that I look a lot better than [Garcia] does, because he's dead," he chortles.

If you have an alternative mode of commuting to and from NIH, especially in this era of burgeoning BRAC-related congestion, let the *NIH Record* know and perhaps we can arrange a brief interview.—Rich McManus

## AAM Welcomes Eight NIH Scientists

Eight NIH investigators are among the 80 microbiologists recently elected to fellowship in the American Academy of Microbiology. Fellows of the academy are elected annually through a highly selective peer-review process, based on their records of scientific achievement and original contributions that have advanced microbiology. There are over 2,000 fellows representing all subspecialties of microbiology, including basic and applied research, teaching, public health, industry and government service. The new NIH fellows are:

Dr. Albert Kapikian, chief, epidemiology section, Laboratory of Infectious Diseases, NIAID.

Dr. Eugene Koonin, senior investigator, National Center for Biotechnology Information, NLM.

Dr. Thomas Kristie, chief, molecular genetics section, Laboratory of Viral Diseases, NIAID.

Dr. Alison McBride, chief, DNA tumor virus section, Laboratory of Viral Diseases, NIAID.

Dr. Hiroaki Mitsuya, chief and principal investigator, experimental retrovirology section, HIV & AIDS Malignancy Branch, NCI.

Dr. John Patton, chief, rotavirus molecular biology section, Laboratory of Infectious Diseases, NIAID.

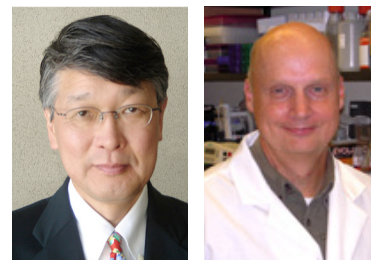
Dr. Peter Williamson, chief, translational mycology unit, Laboratory of Clinical Infectious Diseases, NIAID.

Dr. Thomas Wynn, chief, immunopathogenesis section, Laboratory of Parasitic Diseases, NIAID.

The American Academy of Microbiology is the honorific leadership group of the American Society for Microbiology. ASM is the largest single life science society, including more than 39,000 scientists and health professionals. For more information, visit [www.asm.org](http://www.asm.org).



Above: Dr. Albert Kapikian (l), Dr. Eugene Koonin; below, Dr. Thomas Kristie (l), Dr. Alison McBride



Above, Dr. Hiroaki Mitsuya (l), Dr. John Patton; below, Dr. Peter Williamson (l), Dr. Thomas Wynn





## BRADY

CONTINUED FROM PAGE 1

### Right:

Brady wore a traditional Hawaiian sarong during his presentation at NLM.

### Below:

NLM director Dr. Donald Lindberg (r) answered audience questions alongside Brady.

PHOTOS: BILL BRANSON



NLM director Dr. Donald Lindberg visited Kalaupapa and included interviews with Brady, patients and other caregivers in preparing NLM's exhibition *Native Voices: Native Peoples' Concepts of Health and Illness*. "Kalaupapa was picked [for the settlement] because it isolates the individuals who were sent there," Lindberg said, noting that the highest ocean-side cliffs in the world surround the community on Molokai Island. Yet, for the patients who remain, Lindberg said, "Kalaupapa is home."

A sarong wrapped over his suit, Brady opened the presentation with a Hawaiian chant before explaining the disease's history.

"Hansen's disease is the scientific name of the stigma of a disease that has been around for thousands of years, [and is] recorded in the Old Testament," he said. "In the 1840s, the disease became

epidemic in Hawaii," as Hawaiians infected through travel to China returned home. "There became a fear that Hawaii would become this bastion of leprosy."

Native Hawaiians are more susceptible to Hansen's disease than the world population, of which only 3 to 5 percent are at risk for the disease. Additionally, disease onset for Hawaiians in the mid-19th century typically occurred as early as 5 to 6 years old, much earlier than the median age of onset, between 20 and 30 years, found today.

"When there was a birth, the entire [Hawaiian] family would hold the baby," Brady said, which spread this air-borne disease. After a 3- to 5-year incubation period, the disease would manifest in the child. In response, the Hawaiian king approved an "Act to Prevent the Spread of Leprosy" in 1865.

"If you were suspected of having Hansen's disease, you were arrested and then you went to trial," before a board of physicians, Brady said. "If convicted, you were sentenced to life imprisonment in Kalaupapa."

The first arrivals suffered greatly, as they found a community without housing, established agriculture or law enforcement. Some of the



strongest exiles enslaved women and children. Drunkenness flourished. "And that was the hopelessness and despair of Kalaupapa of the early 1870s."

In 1873, Fr. Damien arrived, helping to provide health care, protection to children and spiritual support. "Most of Kalaupapa saw this person as an outsider," said Brady. They wondered, "How can he preach to us about being meek? He doesn't have this disease that will kill him 5 years from now." But, in 1883, Fr. Damien manifested Hansen's disease. Kalaupapa residents' trust and respect for the priest grew and lawlessness on the peninsula decreased.

From the mid-19th century to the mid-20th century, about 8,000 patients were exiled to Kalaupapa. Brady is the primary care physician for the remaining 19 patients, elderly Hawaiians who reside in Kalaupapa but travel freely.

"The people today in Kalaupapa see [Fr. Damien] as a spiritual father," Brady said. In 2009, he accompanied many of the patients to Rome for the canonization of Fr. Damien. Apr. 15, the date of Fr. Damien's death, is a state-wide holiday in Hawaii.

The Kalaupapa community is now part of Kalaupapa National Historic Park, established in 1980. When the remaining Hansen's patients die, Brady said, it is unclear what will happen to the land. Led by park staff, discussions are under way in Hawaiian communities about how best to honor the legacy of this once-shunned community.

The *Native Voices* exhibit, which highlights this story, is on display through fall 2013 at the National Library of Medicine. 12





*Dr. Bert Vogelstein gives recent Trent Lecture.*

## **Vogelstein Considers Cancer Genome at Trent Lecture**

*By Raymond MacDougall*

Researchers have published 852 studies describing the genomes of 23 different cancers over the past half century and a number of things have become clear. Though every cancer is different, tumors tend to have a similar number of gene mutations, Dr. Bert Vogelstein told an audience attending the 10th annual Jeffrey M. Trent Lectureship in Cancer Research. The lecture, held recently in Natcher Conference Center, is sponsored by NHGRI.

“Mutations are just clocks,” said Vogelstein, a cancer genetics pioneer at Johns Hopkins University School of Medicine. “Every time a cell divides it mutates at a low rate and those changes are recorded in the cancer genome.”

Vogelstein is the first researcher to explain the molecular basis of a common human cancer. His studies in this area comprise the most highly cited body of work not only in cancer research, but also in all branches of science. His initial hallmark discovery was a tumor suppressor gene in colorectal cancer, and most other tumor types, called TP53.

His talk was divided into two themes. The first pertained to deciphering cancer genomes and the second explored ways to exploit them. Cancer genomes, like individual genomes, comprise the sequence and structure of a cell’s DNA, but in a cancer cell or tumor. Researchers have generated vast amounts of data about cancer genomes in more than 125 whole genome studies and more than 725 whole exome studies to date. “This has really revealed the details of what the cancer genomes look like and has greatly illuminated the genetic basis as well as the physiologic basis of cancers,” said Vogelstein.

How many mutations occur in the typical cancer cell? “The answer to that question is now clear,” he said. Most cancer tumors have between 20 and 80 mutations. The range includes mutations that affect coding for amino acids. Exceptions to this low-mutation-count


rule include tumors that have a DNA repair defect, which would result in a rapid accumulation of mutations per tumor.

From that straightforward enumeration, Vogelstein drew his audience into the intricate world of mutation analysis. He explained that cancer tumors result from the combined effect of gene mutations over long periods.

Scientists now know that the mutation rate in cancer genomes—at the DNA base-pair level—is only marginally higher than for normal cells. But cancers can have other kinds of alterations in their genome that cause structural changes in tumors, particularly deletions of tumor suppressor genes, amplifications of cancer-promoting oncogenes and translocations of either of those genes. Additionally, environmental exposures to carcinogens can cause higher mutation levels, as in the lung cancer of smokers and melanoma from excessive sun exposure.

Current researchers are challenged to conduct genomics and epigenetic studies that further characterize cancer. Epigenetics considers the inherited changes in the genome caused by factors other than DNA sequence changes. Heightening the challenge is the fact that any two cancer tumors are not the same. Vogelstein said that this heterogeneity of tumors lends added importance to the area of personalized medicine.

The second half of his talk focused on exploiting cancer genomes for human health. He outlined three aspects of realizing the benefit of this science — patient management, therapeutics and cancer prevention.

He concluded with an early detection plan involving cancer genomics. The heart of the plan is an annual medical office visit and collection of blood and other tissue samples. A doctor would order standard cancer biomarker analysis along with DNA sequence screening for genetic alterations of the samples. Sophisticated imaging also is part of the detection plan. “The trick will be to design these tests in a cost-effective, high-throughput manner,” Vogelstein said. 

## **Glass Honored for Global Health Contributions**

*FIC director Dr. Roger Glass was recently awarded the Program for Global Pediatric Research’s 2012 award for Outstanding Contributions to Global Child Health. The international organization recognized Glass for his achievements in vaccine research and advocacy, pediatrics, epidemiology and mentorship. The award was presented at the annual meeting of the Pediatrics Academic Societies in Boston, during a symposium on the global crisis of childhood diarrhea, which remains one of the major causes of death in the developing world. Glass’s ongoing work in developing vaccines and building a global movement to implement them continues to play a significant role in reducing child mortality and illness worldwide.*



## **Hoover Is NIDDK Exec Officer**

*Camille Hoover was recently named executive officer of NIDDK. She came to the institute from the National Center for Complementary and Alternative Medicine, where she served as executive officer since 2000. Partnering with the director, she helped create the research enterprise from the ground up. Prior to that position, Hoover had been a social worker for the National Cancer Institute, administrative officer for NCI’s Surgery Branch and manager of one of NCI’s largest administrative resource centers. She is a member of several NIH-wide committees and has received awards including the NIH and NCCAM Directors’ Awards, NIH Merit Awards and the NIH Quality of Work Life Award.*







## SUAREZ

CONTINUED FROM PAGE 1

### Above:

*Suarez, a dynamic speaker, eschewed the lectern microphone for a free-ranging presentation across the front of Lister Hill Auditorium.*

PHOTOS: MICHAEL SPENCER

The History of the Book: From Archimedes to the iPad—Suarez argued that “the digital domain is always a world not only of gain, but also of loss... we celebrate the gains, but often are not mindful of the losses.”

A book, he said, is a complex expression of culture. A digital book is not its equal: a mere sequence of images on a screen. Or as Suarez likes to say, “No materiality, no meaning.”

Suarez warned against a sort of “systemic falsification” that occurs when reproductions usurp the place of an original work, a kind of “new true” that is not true at all.

“The digital world is here to stay, and it changes the structure of learning...and that’s a good thing,” he said. “Digital is not the enemy. I don’t hate the Kindle; if it promotes reading it’s a good thing.” Robust digital content, he said, is allowing scholars to ask important new questions and get good, reliable answers. Suarez himself edits the Oxford Scholarly Editions Online, a massive compilation of literature that will range from the Dead Sea scrolls to contemporary works.

“I am not here to deliver a Luddite rant against digital. If you were expecting that, go now. Run!”

Academia, he argues, “is well beyond the idea of either/or” with respect to digital information. “We need to live in a world of both/and.” His goal? “We need to be able to drive the tools we use, and not have the tools drive us.”

Or as he said later, “I use the digital domain every day—I couldn’t do my work without it—but I want to understand its influences.”

He asked the Lister Hill audience to consider several slides of a painting shown onscreen, Antoine-Jean Gros’ “Bonaparte Visits the Plague-stricken at Jaffa,” completed in 1799 and exhibited in 1804. Not one of the reproductions was exactly the same, nor did any of them convey the fact that the original, now in the Louvre, is some 16 feet tall by 21 feet wide, nor show the impasto painting technique employed by its maker. The digital domain introduces distortions, of which users are largely unaware. Asked Suarez, “What is the real thing, and how could you know?”

He noted that the invention of Kodachrome color slide film in 1936 “revolutionized the study of art history,” but also troubled the art world: What happens when a reproduction becomes the work of art, gaining primacy while the original is displaced? Suarez acknowledges that color slides introduced generations of students to a wider palette of art, but also charges that “it changes the way we see.” The loss of physical presence is not without cost.

He said he’s found hundreds of examples of mistakes and inconsistencies in artifacts vs. digital reproductions, and asks, “Is this trivial or substantial?”

Showing a faded page from the Internet Archive online reproduction of the antique *Hereford Breviary*, he declared, “This is what we got—and it’s broken. It ain’t a book. It’s a sequence of images on a screen. So I ask, is this pure gain or is there some attendant loss?”

Suarez wants to know how the “de-contextualization” that inevitably occurs during digital transformation affects human beings. He quoted an esteemed librarian at Oxford’s Bodleian Library, where many older volumes are hand-pressed: “Until you have held 5,000 [hand-pressed books] in your hands, you know nothing of real books.”

To Suarez, a digital book is a picture, part of “an infinitely shuffle-able deck of cards,” not a book. A book, he said, is a complex object, an interacting system of signs, an object whose physical attributes convey meaning. A book is a commodity imbued with social, bibliographic and linguistic codes, “a coalescence of human intention... Those of us who love books value their humanity, glory in their complexity. Books are profoundly humanistic.”

Digital simulacra, on the other hand, represent “a horizon of absences, impoverishment...you can’t read what isn’t there.” Digital books are “very necessary,” he allowed, “but not sufficient.”

In the realm of medical education, digital representations have their uses as educational tools, Suarez noted, but are no substitute for “reading the body.”





*"A digital book—is no book at all," said Suarez.*

NLM is rightly proud of its "Turning the Pages" digital technology that allows perusal of Vesalius's *De Humani Corporis Fabrica* online. But TTP technology, says Suarez, in its attempt to suffice for the genuine, has a pernicious aspect.

"What price do we pay for the convenience?" he asked. "I'm grateful for the access, but what am I getting access to?"

He demonstrated the poverty of the keyword search as a tool of literary analysis; sure, it offers "velocity of access, which is the great desideratum of the digital world," but it also adds to the mistaken notion that searching is somehow the equal of researching.

Suarez cited a Tufts University scholar who discovered that deep readers showed evidence of more connections in the brain while mere "decoders of information" demonstrated fewer connections.

Quoting poet T.S. Eliot, circa 1940, he said, "Where is the knowledge we have lost in information?"

Suarez sees in naive acceptance of digital books a "homogenization of human thought—and that can't be good." To read exclusively in the digital environment is to accept a surrogate, to tread in a world of dislocation where "the contiguous [represented by real books] is now sundered."

Late in his talk, he briefly disclosed the intellectual theology underpinning his misgivings about the digital domain and its empty promise of easy riches: "You cannot love what you do not know. Love is always built on knowledge, and knowledge is always built on labor."

He concluded on a conciliatory note: "The digital world is good, but it changes the way we see. How will it change the way succeeding generations see?...The digital world is here to stay, and I am delighted by its advent. But a digital book—is no book at all." 📖

*Kath Williams (l) presents the LEED gold plaque to Dr. Kathryn Zoon, director of the Division of Intramural Research at the National Institute of Allergy and Infectious Diseases, and Kelly Hudson, site leader for the Office of Research Facilities.*



## Award-Worthy Building Renovation at RML

A boiler plant built in 1940 at Rocky Mountain Laboratories and abandoned when a new central facility replaced it in 2001 is the first NIH building to achieve "gold" status by the Leadership in Energy and Environmental Design (LEED) program following its renovation into a 7,400-square-foot laboratory.

The U.S. Green Building Council on Apr. 18 presented a plaque at RML, an NIH campus located in Hamilton, Mont. The LEED program scores construction projects using a checklist that reflects environmental consciousness. The RML Bldg. 7 project scored 43 points to earn the gold ranking; LEED offers four designations—certified, silver, gold and platinum. The RML project was 9 points short of qualifying for platinum.

Scoring categories include water and energy efficiency; building ventilation and lighting; and material reuse and recycling. In fact, 95 percent of all demolition debris from the project was either recycled or reused.

"This project turned a vacated, defunct building that was a drain on resources into an energy-efficient and valuable laboratory facility," said Kelly Hudson of NIH's Office of Research Facilities. "This is a source of pride in our group."

Two research groups—consisting of about 20 people—now occupy the renovated building.

### Right, top:

*Before—A new boiler being installed in November 1966 gives an idea of the size of the building.*



### Bottom:

*After—About 20 scientists now work in the renovated, high-efficiency building.*







## FESTIVAL

CONTINUED FROM PAGE 1

### **Above, from l:**

*Dr. John Satterlee describes the brain to Science Festival attendees at a NIDA exhibit, "Brains Up Close."*

*The 2nd USA Science and Engineering Festival featured interactive fun for all ages.*

*SciFest patrons experience "More than Meets the Eye" with NEI's Dr. Shefa Gordon (l).*

### **Below:**

*NIH director Dr. Francis Collins uses music to teach science at the Washington Convention Center in D.C.*

ALL PHOTOS EXCEPT APR. 11: BRUCE FUCHS  
APR. 11 PHOTO: ERNIE BRANSON



tion Campus in the District; and NIAID director Dr. Anthony Fauci visited Walter Johnson High School in Bethesda. These festival events were part of "Nifty Fifty (times 2)," which brought 100 noted science and engineering professionals to area schools. As Rodgers explained to students at Langley, "The more we study science, the more we become more logical thinkers, smarter consumers, more skilled workers and healthier people. For those of you who love science, I encourage you to stick with it through the rest of your education and beyond."

At the Finale Expo, NIH creativity was on display throughout the convention center. Examples include a second Collins guitar performance of entertaining, educational songs; a cell membrane model of colorful balloons; one staffer dressed as a mouse playfully educating kids about animal research; and another dressed as a giant carrot, talking about nutrition and the sugar content of common foods.

"One of the best parts of the festival was seeing families enjoying science together," said NHGRI's Dr. Carla Easter. At the NHGRI exhibit "DNA: The Long and Short of It," children and their parents isolated DNA from more than 20 pounds of strawberries. "At times, the parents seemed to enjoy the activities more than their children did, which just shows that none of us is ever too old to learn something new," Easter noted.

Shows on the NIH stage also offered science competitions, cooking demonstrations and interviews. Elsewhere, science celebrities Adam Savage and Jamie Hyneman, hosts of television's *MythBusters*, and Bill Nye the Science Guy drew crowds as they described how they use the scientific method in their shows.

Children and teens discussed science careers with NIH researchers at a "Career Encounters" event organized by the Office of Human Resources. "NIH science professionals, from health information managers to DNA researchers, took their work out of the office and connected with youth of all ages," explained Sarah Crowell of OHR. The activity showed young people that science careers are intriguing and accessible. "I think we inspired some future scientists today," Crowell concluded.



*NHGRI's Dr. Carla Easter (2nd from r) and Melissa Meredith (r) help kids isolate DNA from strawberries.*



*At left, dozens of booths and exhibits show the scope of SciFest. At right, NIDDK director Dr. Griffin Rodgers poses with top student William Leech at the Langley Education Campus on Apr. 11.*





## feedback

Have a question about some aspect of working at NIH? You can post anonymous queries at [www.nih.gov/nihrecord/index.htm](http://www.nih.gov/nihrecord/index.htm) (click on the Feedback icon) and we'll try to provide answers.

**Feedback:** Please tell me why, in this day of "going green" and the recent celebration of "Earth Day" that NIH gives every employee a paper copy of the *NIH Telephone and Service Directory*. The paper copy indicates that this publication is available online. Why not print on demand if an employee really feels he or she needs to have a paper copy?

**Response from the Center for Information Technology:** Thank you for your question and the opportunity to clarify. The good news is that we previously published 25,000 paper copies of the *NIH Telephone and Service Directory*. Because of our online listing, this number has been significantly reduced. We are currently printing 2,500 paper copies and we will continue reducing the quantity each year. The current directory can be found at the following link, <http://teledirectory.nih.gov/>.

**Feedback:** I've seen them every day for 18 years, but now I am curious. I enter the campus each day by North Dr. I've begun to notice all of the beautiful homes located on campus, especially on this drive. Do they belong to the NIH? Who lives in these homes? Is there an opportunity for a real tour or a virtual tour of these homes and others located on the NIH campus? What history exists and are there any interesting stories that I can read about them? Please share what you know.

**Response from the Office of Research Facilities:** [This question was asked and answered last August in the *NIH Record*.] The area you are referring to is known as the "Quarters." It is generally used as on-campus housing. Several are rented by senior staff at NIH. Occupants are charged the market rental rate for comparable units in the local area in accordance with the Office of Management and Budget Circular A-45. In some cases, these units are used for administrative offices such as for staff members of NIAID and the NIH Fire Marshal.

The Quarters exist due to a set of land donations to NIH by a local family, the Wilsons, in the 1930s. As part of the first donation in 1935, an existing structure known as "Top Cottage" (Bldg. 15A) conveyed. A subsequent donation in 1938 allowed for the expansion of the Quarters into 2 to 6 sets of double quarters and 2 single detached residences completed in 1939. The Quarters are eligible for the National Register of Historic Places.

**Feedback:** Carpool spaces are usually open to anyone after 9:30 a.m. Why are the rules different in MLP-10? I don't generally park at that time of day but when I pulled in at 9:30 and people were parking I was told by the parking attendant that I couldn't park there. I was initially told he would "call the police on me," then he said he wouldn't but [suggested] that I wasn't a good person because apparently people have been waiting for spaces since 8:50—how could I possibly jump line in front of them? One of the people waiting then also insulted my character. Others in my lab have experienced the same thing. It is a bit alarming to arrive to work and be insulted before you even get in the door. If this system is officially sanctioned by NIH, why aren't people doing this all over campus?

**Response from the Office of Research Services:** Carpool spaces are definitely open to everyone after 9:30 a.m. NIH does not sanction the situation you described in MLP-10 and we have been made aware of this type of behavior occurring in other parking facilities on campus. What we speculate is happening in MLP-10 is that employees have created an informal waiting line for carpool spaces. This informal procedure was created by social norms and etiquette. Instead of circling the lot when the garage fills up, employees have formed an impromptu waiting line to fill the empty spaces at 9:30. Anyone who breaks the line is not breaking any rule or regulation of NIH. Those waiting in line probably see this situation as similar to someone at the grocery store cutting in front of you at the checkout line. When social norms are violated, tempers can flare. The parking attendant was not trying to enforce any policy but was attempting to "keep the peace" and help you understand why those waiting were upset. The parking attendants have now been instructed not to intervene in these situations.

**Feedback:** Why does the sidewalk along the west side of Center Dr. near Bldgs. 12 and 22 always seem to be closed? Major construction appears to be completed, yet the sidewalk opens and closes repeatedly, often for months at a time while no apparent progress is made. This requires pedestrians to either cross the road twice or walk in the road—dangerous either way. NIH is normally very concerned with pedestrian safety, but this is one case where it could be improved. I'm sure if the road had to be closed instead of the sidewalk, this construction would be prioritized. At least a temporary walkway should be used during work stoppages.

**Response from ORF:** The closure of the sidewalk near Bldgs. 12 and 22 is unrelated to any construction project. A major, unexpected infiltration of water developed in an underground trench and tunnel in the area. For the safety of pedestrians, the sidewalk was closed until crews could determine the exact location and cause. A repair plan has been developed. As part of the tunnel repair, a one-lane section of Center Dr. will also need to be closed and excavated. During repairs, signs will be posted and flag staff will be on site to direct traffic. A reminder message will be sent out approximately 1 week prior to the partial closure of Center Dr. Estimated completion date for repairs is late June.

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### Heat Tolerance Test Study Recruits

The Uniformed Services University of the Health Sciences is conducting a study to validate a heat tolerance test and to explore biomarkers related to heat illness. Eligible participants must be active-duty members of the uniformed services or DoD/PHS-health care beneficiary men and women between the ages of 18 and 45. Volunteers may be compensated for their participation. Call (301) 295-1371 or email [humanperformancelab@usuhs.edu](mailto:humanperformancelab@usuhs.edu).

### Women's Health Studies Seek Healthy Volunteers

Healthy women ages 18-50 are invited to participate in outpatient research studies. Compensation is provided. Call (301) 496-9576 and refer to protocols 81-M-0126, 88-M-0131 and 03-M-0138.



# 100 milestones

## Sipe Retires from CSR

Sputnik launched Dr. Jean Sipe's career. When the news hit about the Soviet spacecraft in 1957, "our teachers encouraged anyone talented in math and science to go into science," she recalled. "It became the patriotic thing to do."

Sipe, who recently retired from the Center for Scientific Review, accepted the challenge. She graduated with a B.S. in chemistry from Iowa State University. She also earned her M.S. degree in biochemistry from the University of Washington and Ph.D. in chemistry from the University of Maryland.

She had a diverse and satisfying career as a researcher, professor, administrator and editor. She joined CSR as a scientific review administrator (now officer, or SRO) in 1997 but worked earlier in the National Institute of Allergy and Infectious Diseases, National Institute of Arthritis, Metabolism and Digestive Diseases and National Cancer Institute.

In between stints at NIH, she was an associate and full professor at Boston University School of Medicine. She has been an editor or on the editorial board of many journals, including a founding associate editor and continued involvement with *Amyloid: The Journal of Protein Folding Disorders*.

When looking for a career transition, Sipe applied to CSR and became SRO for the musculoskeletal tissue engineering study section. But another CSR role offered daily impact on the review process. As chair of the SRO handbook committee and review policy coordinator since 2003, she changed the handbook from a cumbersome book into a continually updated online resource, relied upon not only by CSR, but also elsewhere in NIH and beyond.

"She has turned her experience into a tangible product through her contributions to the SRO handbook," said Joyce Gibson, CSR division director for clinical and translational sciences. "Jean is well respected by the scientific community that her study section serves and will be sorely missed."

Colleagues also praised her ability to communicate, keep organized and synthesize diverse information and points of view while remaining calm, cool and collected. "She had superb

judgment and a quiet strength and confidence," said Eugene Carstea, a fellow SRO and member of the handbook committee. He also praised her positive impact on the people around her. "Jean's example inspired me to look for more ways to get involved," he said. Relatively new to CSR, he is now acting training coordinator for the office.

"Any question I had, she knew the answer or where to go for it and she was always patient," said Priscilla Chen, SRO for the skeletal biology development and disease study section.

In characteristic fashion, Sipe thought through when to retire—in the spring, not winter. She will travel to Southeast Asia and enjoy what she called "simple pleasures, like seeing the cherry blossoms." Looking ahead, she will contribute her skills to a worthy cause or organization. As happened after Sputnik, Sipe is ready to answer the call to help society.—**Paula Whitacre**

## A Life of Firsts

### NIDDK Mourns Nancy Cummings

By Anne Wright

Dr. Nancy Boucot Cummings, former director of NIDDK's Division of Kidney, Urologic, and Hematologic Diseases (KUH)—and the institute's first female division head—died in Washington, D.C., on Mar. 27. She was 85.

Cummings joined NIDDK in 1972, the year Congress extended Medicare coverage to anyone with permanent kidney failure. A 1951 graduate of the University of Pennsylvania School of Medicine, Cummings worked at the Royal Hospital of St. Bartholomew in London, where she accompanied noted nephrologist Dr. Clifford Wilson on weekly rounds. She then worked at Manchester Royal Infirmary in England under Dr. Robert Platt, an international authority on kidney disease.

Cummings' life was full of firsts. She was the first woman intern at Philadelphia's Pennsylvania Hospital, the nation's oldest. She was the first female medical resident at the Hospital of the University of Pennsylvania and the first woman renal fellow at Peter Bent Brigham Hospital in Boston, under Dr. John P. Merrill, the "father of nephrology." Cummings was also a research fellow at Harvard Medical School from 1955 to 1959.

"When my mom had her career, it definitely wasn't an easy place for a woman," said her



*Dr. Jean Sipe recently retired from the Center for Scientific Review.*





daughter, Susan Cummings. “A picture of my mom’s internship class—about 35 men and my mother—sums up what she was up against.”

Cummings may have inherited her determination and inspiration to become a physician from her mother, Dr. Katharine Boucot Sturgis, who earned her medical degree in 1942, two decades after interrupting her education to raise a family.

Throughout Cummings’ career, academia and bioethics remained important. On the faculty at Georgetown University School of Medicine, she was a clinical scholar in the Center for Clinical Bioethics and a fellow in the Kennedy Institute of Ethics. She also taught health care ethics at Howard University College of Medicine and was a bioethics consultant at the Clinical Center. She wrote many articles about ethical and legal issues surrounding kidney disease treatment.

According to her daughter, Cummings’ interest in bioethics “was a natural evolution from nephrology: who do you give dialysis to and who do you not give dialysis to, because dialysis was phenomenally expensive.”

During Cummings’ tenure as KUH director in the 1970s and early 1980s, “the division was trying to get dialysis to assume its rightful place as a research topic, which was no easy task,” said Dr. Gary Striker, who succeeded Cummings as director. “People thought of it as being clinically interesting, but not necessarily something to spend a lot of time, money and energy on. Dr. Cummings used her position as division director to keep the issue before the field.”

Cummings was elected to the Washington Academy of Medicine, among other honors.

Following her 2002 retirement from NIH, Cummings launched a second career as a volunteer docent at the National Gallery of Art in Washington, pursuing the passion for art history she had put on hold for 55 years. She had studied art history at Harvard before heading off to medical school in 1947.

Cummings also served for 10 years on the board of the Circles Program at the John F. Kennedy Center for the Performing Arts in Washington. “She was one of our most dedicated Circles Program supporters and one of our strongest advocates at the Kennedy Center for education,” said Patrick Dazey, the program’s assistant manager. “We really enjoyed her enthusiasm.”

A memorial service was held Apr. 9 at St. Alban’s church, where Cummings was a long-time active member. She is survived by her daughter, two sons and nine grandchildren.

## DTM Phlebotomist Dash Mourned

Lavora Clark Dash, 44, a phlebotomist in the Clinical Center department of transfusion medicine (DTM) for 8 years, died unexpectedly on Apr. 21.

“Her commitment to the department of transfusion medicine was powerful and her spirit and humor often raised the spirits of those around her,” said Dr. Susan Leitman, DTM blood services section chief. She recalled the hundreds of donors who requested Dash when they came to donate and her reputation as one of the best phlebotomists in the department. “This is a great loss for all of us and it is hard to really comprehend that she is gone.”



Tracey Chinn, acting chief nurse of the DTM blood services section, and Bonnie Sink, clinic manager and Dash’s supervisor, remember her as a positive, cheerful and encouraging member of their team. “She worked well with first-time donors and donors who were nervous. She would talk to them and make them feel better,” said Sink.

Chinn said that Dash was known for her cheerful sayings, thanking people for coming to work at the end of the day and announcing that, “Sunshine is here, hold the applause,” when she herself arrived. “She really had a larger-than-life spirit and her sayings and attitude created such a positive environment,” said Chinn.

Dash was a devoted sister and a loving mother. She leaves behind two teenage children, ages 18 and 14.

## ORF’s Bermudez To Compete for Miss Maryland

*Jessica Bermudez of the Office of Research Facilities, who is currently serving as Miss Germantown 2012, will compete on June 23 for the title of Miss Maryland, a preliminary for Miss America. The theme of her candidacy is Innovate Tomorrow: Inspiring Future Leaders in Science and Technology. “I aspire to be the first person to win the title of Miss America while promoting the STEM fields,” she said. Bermudez has a bachelor of science degree in bioengineering and is currently pursuing a master’s degree in public health at the University of Maryland. For more about her efforts, visit [www.innovatetomorrow.com/](http://www.innovatetomorrow.com/).*







At left, a student from Reid Temple Christian Academy in Glenn Dale, Md., discovers the disorienting properties of the Fatal Vision goggles at NIAAA's Cool Spot Carnival. NIAAA's Diana Urbanas looks on. At right, NICHD's Dr. Dennis Twombly demonstrates the Drunken Brain to students from Our Lady of Lourdes School in Bethesda.

PHOTOS: NATIONAL MUSEUM OF HEALTH AND MEDICINE

## NIH Participates in Brain Awareness Week

NIH scientists once again wowed young people with science, fun and games at Brain Awareness Week, an annual worldwide effort coordinated by the Dana Alliance for Brain Initiatives to increase public awareness of the progress and benefits of brain research.

Locally, the National Museum of Health and Medicine in Silver Spring, Md., hosted Brain Awareness Week activities. Seven NIH institutes conducted interactive activities with middle school students at the museum.

Activities included NEI's More than Meets the Eye presentation, which uses optical illusions to illustrate visual processing in the brain; NIA's Mysteries of the Brain, which used word games to demonstrate the brain's power to remember patterns; and NICHD's Alcohol and the Developing Brain session, which featured the Drunken Brain, an interactive exhibit that shows how the brain functions normally and while under the influence of alcohol.


Students also played NIDA's Brain Derby, where they answered questions about drugs' effects on the brain and body. At NIMH's Wonders of the Brain presentation, some students did their homework ahead of time, with one even knowing all about the Stroop effect, originally demonstrated in a famous experiment in which an individual is tasked with reciting the ink color a word is printed in as opposed to the actual word. For example, if the word "blue" is printed in red, the individual should say "red." People completing this task often slow down and make mistakes when reading the mis-matched words and colors, showing that the brain makes assumptions based on past experience that must be overcome.

NIMH scientists also presented the Seat of Personality, using the famous case of Phineas Gage, who lived following an accident in which a metal rod pierced his brain—causing significant changes in his personality—to demonstrate the jobs performed by different parts of the brain.

NINDS presented the Brain Lobe-oratorium, an interactive exhibit that teaches students about the lobes of the human brain. Scientists impressed the crowd with a real, preserved human brain that students could view.

At NIAAA's Cool Spot Carnival, students learned first-hand how alcohol interferes with sensory perception, movement and balance as they tried to score in a foot-ball-toss game while wearing goggles that simulate being under the influence of alcohol. A brave teacher accompanying one of the groups even agreed to go head-to-head against a student while wearing the goggles to demonstrate that even age and maturity are no match for alcohol's effects.

Dr. Ivana Grakalic of NIAAA's Division of Neuroscience and Behavior said parents and teachers were as engaged in the activities as the students. Several chaperones admitted they didn't know that the brain continues maturing well into the third decade of life, assuming that development was complete around age 10.

Diana Urbanas of NIAAA described the day as an opportunity for young people to learn just how amazing the human brain is and why it's so important to take care of it. "It's a great way to see first-hand the scientific process and stimulate interest in the sciences," she said. 



At left, Owen Older and Gigi Lopez carefully examine brains. At right, Jackie and Maddie Espinoza and Hannah Klun show off their newly molded and painted brains.

## NIDA Hosts 'Take Your Child to Work Day' Activities

NIDA hosted 50 children and grandchildren of staffers at its headquarters for Take Your Child to Work Day on Apr. 26. Children ages 3 to 14 participated in a wide variety of activities including Brain Derby, an interactive fast-moving game designed to teach students about their brains and how drugs can affect the brain and body; interactive science projects; a neuroscience drawing contest; Brains Up Close, where kids got the chance to hold real human, sheep and rat brains; and the new breakthrough hit Stump Dr. Sciencehead, where youngsters asked any scientific question they could think of.

At right, NIDA's Hirsch Davis helps Owen, 4, get his first peek at neurons.

